REMARKS/ARGUMENTS

The final Office Action of January 5, 2006, has been carefully reviewed and this response addresses the concerns stated in the Office Action. All objections and rejections are respectfully traversed.

I. STATUS OF THE CLAIMS

Claims 1-53 and 55-58 are still pending in the application. Applicant notes that the Office Action Summary states that claims 1-53, 55, and 56 are pending in the application. Applicant further notes that the Office Action states, on page 17, that claims 57 and 58 are rejected. Because claims 57 and 58 have not been cancelled or withdrawn, Applicant assumes that claims 1-53 and 55-58 are pending in the application.

Claims 1, 4-7, 9, 11, 13-16, 28, 30-32, 34-36, 43, and 52 have been amended to clarify terminology and to further define the invention. No new matter has been added.

Claim 54 has been previously canceled without prejudice.

Claim 4 was rejected under 35 U.S.C. § 112, first paragraph because the Office Action states that the claims fails to comply with the written description requirement.

Claims 5 and 6 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the invention.

On page 3, the Office Action states that claims 1-53 and 55-56 were rejected under 35 U.S.C. § 102(e) as being unpatentable over Brockel et al, U.S. Patent No. 6,058,260, issued May 2, 200 (Brockel), filed on June 15, 1998. Applicant respectfully points out that claims 57 and 58 were also rejected on page 17 of the Office Action. Applicant further respectfully points out that there is no formal rejection stated for claims 6, 17, 20, 25-27, 32, 35, and 40-42 setting forth where in the Brockel patents the elements/steps of these claims can be found. Applicant therefore considers these claims to contain allowable subject matter since Applicant is unable to find the patentable limitations found therein in the Brockel patent. In view thereof, Applicant reserves the right to rewrite these claims in independent form at a later date if Applicant's arguments with respect to the remaining claims are found unpersuasive. In view of detailed arguments presented below, Applicant believes all claims

presented in the present application are allowable and therefore there is no need to rewrite claims 6, 17, 20, 25-27, 32, 35, and 40-42 in independent form incorporating the limitations of the claims from which they depend therein at this time.

II. CLAIM REJECTIONS UNDER 35 U.S.C. § 112, FIRST PARAGRAPH

On page 2, in paragraphs 1-2, the Office Action states that claim 4 is rejected as failing to comply with the written description requirement. The Office Action states that the closure (sic) lacks clear written description in the description of how to initiate an action for preventing performance problem occurring in an attempt to prevent the future network-wide performance problem. Applicant respectfully directs the Examiner to Applicant's Specification, page 30, line 3 – page 32, line 8. This passage provides a scenario in which a network resource (a swap file on a gateway) is predicted to be at capacity. On page 32, lines 2-3, Applicant's Specification states that "the rule may also initiate a command in an attempt to add more swap space, since it has reached the threshold of 80%". Applicant asserts that the act of initiating a command is an example of Applicant's claimed "initiating the action before the future network-wide performance problem occurs" because an attempt is made to add more swap space (an action) before the resource is completely exhausted (before the future network-wide performance problem occurs). The lack of swap space would clearly cause a performance issue. Applicant asserts that claim 4 meets the statutory requirements of 35 U.S.C. § 112, first paragraph, and thus the rejection under 35 U.S.C. § 112, first paragraph, should be withdrawn.

III. CLAIM REJECTIONS UNDER 35 U.S.C. § 112, SECOND PARAGRAPH

On pages 2-3, in paragraphs 3-4, the Office Action states that claims 5 and 6 are rejected under 35 U.S.C. § 112, second paragraph.

On page 2, in paragraph 4, the Office Action states that claim 5 is vague and indefinite because it is unclear how to correlate the real-time status information with one previously defined rule. Applicant directs the Examiner to Applicant's Specification, page 30, lines 17-22, which states that "a gateway polls the system and sends the information to the MS. . . the MS determines that the "system swap" (Swapa attribute of object SYSR of FIG. 11) is at 70 percent of its capacity . . . [A] rule may be implemented on the MS that takes the statistical mean average of this value based on the number of times the poll has

been performed". Applicant asserts that a rule that takes the statistical mean average of collected information provides an example of Applicant's claimed correlating real-time status information with a previously-defined rule. Because an example has been provided within Applicant's Specification of how to perform Applicant's claimed step, the rejection of claim 5 under 35 U.S.C. § 112, second paragraph, should be withdrawn.

On page 3, in paragraph 5, the Office Action states that claim 6 recites the limitation "that foreshadows the occurrence" for which there is insufficient antecedent basis. Applicant has amended claim 6 to correct the antecedent basis.

IV. CLAIM REJECTIONS UNDER 35 U.S.C. § 102(e)

On pages 3-17 of the Office Action, in paragraphs 6-7, the Office Action has rejected claims 1-53 and 55-58 under 35 U.S.C. § 102(e) as being unpatentable over Brockel.

Applicant respectfully points out that Brockel issued on May 2, 2000, within a year of the filing date of the present application, October 30, 2000. Applicant is investigating the possibility of swearing behind the cited reference and respectfully reserves the right to file a petition under 37 C.F.R. § 1.131.

Applicant respectfully points out that "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628 (CAFC, 1987), M.P.E.P. § 2131. As pointed out by the remarks set forth below, clearly this is not the case with the present rejection of the claims. Even further, the remarks below enforce Applicant's position that the structure and method steps of dependent claims 6, 17, 20, 25-27, 32, 35, and 40-42 are not found in the cited Brockel patent. In summary, Brockel does not anticipate Applicant's invention at least because of the following:

(1) Brockel does not disclose or suggest Applicant's claimed step of polling, nor Applicant's polling gateway (independent claims 1, 15, and 30).

(2) Brockel does not disclose or suggest Applicant's claimed prediction of a future network-wide performance problem based on evaluating performance by identifying network-wide patterns (independent claims 1, 15, and 30).

On pages 4, 8, and 11-12, with respect to independent claims 1, 15, and 30,

(1) The Office Action states that Brockel teaches, in col. 6, lines 45-55, a method of managing a network comprising the steps of polling resources of the network to gather real-time status information about the network (the Office Action states: "1; traffic input"), evaluating performance of the network by identifying network-wide patterns in the gathered real-time status information (the Office Action states "2; a traffic database of a traffic forecast means 2, said traffic forecast means 2 having a plurality of traffic algorithms, in order to store a plurality of traffic data, predicted traffic network data and network performance parameters) (claim 1); a system for managing a network, said system comprising at least one polling gateway that is operable to poll one or more network elements to gather real-time status information for said one or more network elements, at least one processor-based management server communicatively coupled to the at least one polling gateway to receive the gathered real-time status information from said at least one polling gateway, (claim 15); a management system for managing one or more layers of a network, wherein said managing includes predicting network-wide performance problems that are to occur within one or more layers of the network and taking responsive actions in an attempt to prevent or timely respond to the predicted said network-wide performance problems, said management system comprising at least one processor-based management server communicatively coupled to at least one polling gateway that is operable to poll at least one network element to gather real-time status information for said at least one network element (claim 30).

In the cited passage (col. 6, lines 34-55), Brockel states that the traffic forecasting step includes entering information into a traffic database, that a traffic forecast means has traffic algorithms that form a traffic forecast output by modeling communications links according to communications requirements inputs and network performance parameters, that propagation forecast and traffic forecast are input to algorithms to create a dynamic network model that matches expected weather and traffic conditions, and that the model is display to an operator.

In other words, Brockel states a system in which traffic and propagation data, along with requirements data and performance parameters, are used to predict traffic, and that traffic prediction is fed into an algorithmic process to create a network model. The Office

Action states that Brockel teaches "traffic input", and that this teaching anticipates Applicant's claimed polling resources of the network and polling gateway. With respect to Applicant's claimed step of polling and Applicant's claimed polling gateway, Applicant asserts that Brockel does not disclose or suggest polling, which is a type of operation that involves a specific overt action which could be performed, in Brockel's system, by the traffic forecast means 2 (Brockel, FIG. 1). If Brockel were suggesting polling, arrow 1 (Brockel, FIG. 1) would at least be a double arrow indicating that the traffic forecast means would poll its sources to receive data. Instead, arrow 1, points one way, into the traffic forecast means 2. With respect to Applicant's claimed resources of the network, Brockel fails to disclose or suggest this element as well. Brockel states that a plurality of traffic data, predicted traffic network data, and a plurality of network performance parameters are stored into the traffic forecasting means (Brockel, col. 4, lines 20-23). These types of data might include number of messages/minute, forecasted number of messages/minute, and expected number of messages that the network would accommodate, respectively. However, traffic data cannot even be broadly read to include Applicant's claimed resources of the network (claim 1) or Applicant's claimed network elements (claims 15 and 30). Traffic data are statistics about information passing through the network, whereas resources and network elements are, for example, disks, CPUs, servers, etc. There is no intersection between traffic data and resources of the network or network elements. With respect to Applicant's claimed evaluating performance of the network, Brockel states that network performance parameters are used in the creation of the dynamic network model, and that traffic data are used as input, but Brockel does not disclose or suggest Applicant's claimed step of evaluating the performance of the network. Brockel analyzes the difference between his network model and the actual network in order to optimize the configuration and performance of the network for different communications scenarios (Brockel, col. 5, lines 13-15), but Brockel's output of actual traffic data, fault and repair data, etc., are directed to making real-time adjustments and corrections to the necessary algorithm, database, module, or other portion of the network (model) (Brockel, col. 5, lines 23-27). Brockel does not perform Applicant's claimed step of evaluating the performance of the network, but rather, Brockel tests the accuracy of the model and updates the model if necessary. Thus, because Brockel does not disclose or suggest Applicant's claimed step of polling or a polling gateway, because Brockel does not disclose or suggest Applicant's claimed resources of the network or network elements, and because Brockel does not disclose or suggest Applicant's claimed evaluating performance of

the network, the rejection of claims 1, 15, and 30 under 35 U.S.C. § 102 should be withdrawn.

(2) The Office Action states that Brockel teaches, in col. 6, lines 55-68, based on the result of said step of evaluating, providing a prediction of a future network-wide performance problem (the Office Action states "the control portion of the method of the present invention entails managing a communications network 9, during a forecast updating step, a model correction means 10 continuously provides a plurality of real-time meteorological measurements, indicated by arrow 12, to said propagation forecasting means 5, as well a plurality of radio traffic measurements, indicated by arrow 11, from said network 9 to said traffic forecast means 2, resulting in said propagation forecast means 5 and said traffic forecast means 2, respectively, providing an adjusted propagation forecast, indicated by arrow 14, and an adjusted traffic forecast, indicated by arrow 13, to said plurality of planning algorithms of the network planning means 7") (claim 1); the at least one processor-based management server predicting the occurrence of a network-wide performance problem within the network based on the gathered real-time status information (claim 15); and the at least one processor-based management server including software code executing thereon, wherein said software code learns a condition for predicting said network-wide performance problem within one or more layers of the network from said gathered real-time status information to enable the processor-based management server to predict the occurrence of said network-wide performance problem within the network (claim 30).

In the cited passage (col. 6, lines 55-68), Brockel states that a model correction means continuously provides real-time meteorological measurements and radio traffic measurements to a propagation forecasting means and the traffic forecast means, respectively, and that the propagation and traffic forecast means provide an adjusted propagation forecast and an adjusted traffic forecast to planning algorithms.

In other words, Brockel's system uses meteorological and radio traffic measurements to adjust propagation and traffic forecasts and transmits them to planning algorithms to form the network model so that the designed network matches expected weather and traffic conditions. However, Brockel does not disclose or suggest Applicant's claimed prediction of a future network-wide performance problem based on evaluating performance by identifying network-wide patterns. To perform Applicant's claimed invention, status information is

evaluated, possibly using statistical analyses to generate network-wide patterns, and a network-wide performance problem is predicted based on the evaluated status information. Brockel's invention involves the steps of creating forecast data from measurements, providing forecast data to an existing model, reconciling the model, and using the model to generate "reconfiguration instructions" (Brockel, Abstract). Brockel is not using input measurements to perform Applicant's claimed identifying network-wide patterns but instead is using input measurements to create data that are used to reconcile an existing model. And even if Brockel were identifying network-wide patterns, which he is not, Brockel is not providing Applicant's claimed prediction of a future network-wide performance problem, but instead is providing an operator with reconfiguration instructions. Further, the reconfiguration instructions notify the operators to reconfigure the network to counter the natural and enemy-induced spectrum of threats intrinsic to battlefield communications (Brockel, col. 16, line 65 – col. 17, line 1). Protecting a network against battlefield threats does not imply Applicant's claimed prediction of a future network-wide performance problem because the Brockel's reconfiguration results from a prediction that involves external influences on the network, whereas Applicant's claim basing the prediction on network-wide patterns in real-time status information of the *network resources*. Because Brockel does not perform Applicant's claimed identifying network-wide patterns, and because Brockel does not provide Applicant's claimed prediction of a future network-wide performance problem, Brockel does not anticipate Applicant's claims 1, 15, and 30, and the rejection of claims 1, 15, and 30 under 35 U.S.C. § 102 should be withdrawn.

Since Brockel does not disclose each and every element of Applicant's independent claims 1, 15, and 30, and claims 2-14, 16-29, 31-53 and 55-58 which depend therefrom, Applicant's independent claims 1, 15, and 30, and claims 2-14, 16-29, 31-53 and 55-58 which depend therefrom are not anticipated by Brockel, and the rejection under 35 U.S.C. § 102(e) should be withdrawn.

On pages 4, 10, and 13, with respect to dependent claims 2, 23, 38,

The Office Action states that, Brockel teaches, in col. 4, lines 47-56, determining an action for preventing the future network-wide performance problem from occurring (The Office Action states that Brockel states [T]he present invention also provides for an automated communications network planner apparatus for converting meteorological data

and traffic data into a dynamic network model meeting a plurality of predetermined performance parameters on a display means, that the apparatus creates a dynamic network model based on propagation and traffic forecasts and then updating and adjusting the network model based on updated real-time propagation and traffic data inputs provided to a network planning means by a means for determining model corrections and a number of algorithms) (claim 2); wherein said action is an action for attempting to prevent the network-wide performance problem predicted by the detection of said defined condition from occurring (claim 23); and wherein said action is an action for attempting to prevent the network-wide performance problem predicted by the detection of said condition from occurring (claim 38).

In the cited passage (col. 4, lines 47-56), Brockel states that an automated communications network planner apparatus converts incoming data into a network model that meets certain performance parameters, that the model is based on propagation and traffic forecasts, and is updated and adjusted based on updated real-time propagation and traffic data. In other words, Brockel develops a network model and adjusts it based on reconciling it with incoming data. Brockel's system would thus involve steps such as receiving incoming data, generating a network model according to the incoming data and other data, and updating the model based on further incoming data. A model includes a group of entities along with algorithms that govern their interaction with each other. Thus, when data are fed into a model, algorithms that use that data are executed in order to update further data within the model. Applicant's system, on the contrary, involves the steps of polling for incoming data, identifying patterns in the data, predicting future problems from the data, and determining an action to prevent the future problems. Thus, because Brockel does not disclose or suggest Applicant's claimed determining an action to prevent future problems that were predicted based on identifying patterns in incoming polled data, the rejection under 35 U.S.C. § 102 of claims 2, 23, and 38 should be withdrawn.

On pages 4-5, 9, and 13, with respect to dependent claims 3, 22, and 37, the Office Action states that Brockel teaches wherein said determining step includes determining the action from at least one previously defined rule (the Office Action states "70; propagation forecast") (claim 3); wherein at least one rule defines an action for said at least one processor-based management server to respond to a defined condition begin detected (claim

22); and wherein at least one rule defines an action for said at least one processor-based management server to take in response to said condition being detected (claim 37).

With respect to propagation forecasting means 70, Brockel states that "[S]aid propagation forecasting means 70, having a propagation reliability methodology based on short-term, predictive meteorology, provides near-future propagation forecasts" (col. 8, lines 11-14). In Brockel, propagation forecasts are forecasts of meteorological phenomena that affect the propagation reliability of communications links that can include atmospheric refraction, layering (ducting), rain, absorption and fog (col. 1, lines 33-37). In other words, Brockel states a way to forecast propagation reliability of communication links based on meteorological phenomena. Brockel's propagation forecast means 70, however, does not anticipate Applicant's claimed determining an action to prevent a future network-wide problem based on a rule because Brockel's propagation forecasting means simply predicts whether or not a message will be able to be reliably sent based on the current weather, but does not perform Applicant's claimed step of determining an action from a previously-defined rule for preventing a future network-wide problem. Predicting reliability and determining an action from a previously-defined rule are two different actions, and thus the rejection of claims 3, 22, and 37 under 35 U.S.C. § 102 should be withdrawn.

On pages 5, 10, and 14, with respect to dependent claims 4, 24, and 39, the Office Action states that Brockel teaches, in col. 9, lines 1-22, initiating the said action before the future network-wide performance problem occurring in an attempt to prevent the future network-wide performance problem (the Office Action states as closely interpreted by the examiner, Brockel teaches a propagation forecast 70, an equipment availability and characteristics input, indicated by arrow 68, from said network 100 through the model correction means 110, which will be combined with a projected link reliability factor, indicated by arrow 69, for transmission of said propagation forecast output, arrow 71, to a plurality of planning algorithms of said network planning means 75, that said plurality of planning algorithms of the network planning means 75 will calculate the propagation reliability of communications links of said network 100 during said network planning step, which is one of the upcoming steps of the method of this invention) (claim 4); wherein upon detection of said defined condition, said at least one processor-based management server initiates said action before said network-wide performance problem occurring (claim 24); and

wherein upon detection of said defamed (?) condition said at least one processor-based management server initiates said action before said network-wide performance problem occurs (claim 39).

In the cited passage (col. 9, lines 1-22), Brockel states that a propagation forecasting means uses information from a propagation database, known propagation characteristics, traffic-related input, and a projected link reliability factor as input to planning algorithms that calculate propagation reliability of communications links. Brockel's system simply determines a statistic, reliability, but does not perform Applicant's claimed step of initiating an action before the future network-wide performance problem occurs in an attempt to prevent the problem. Brockel gives no indication in the cited passage that the reliability statistic is used to initiate an action, or to attempt to prevent a future network problem. Thus, the cited passage in Brockel cannot anticipate Applicant's claimed invention. For this reason, the rejection of claims 4, 24, and 39 under 35 U.S.C. § 102 should be withdrawn.

On pages 5 and 15, with respect to dependent claims 5, 46, and 47, the Office Action states that Brockel teaches, in FIGs. 1 and 2, wherein said step of evaluating performance of the network further includes correlating the real-time, status information with at least one previously defined rule (the Office Action states that reference numbers 60 and 59, as well as the flow chart of FIGs. 1 and 2 of the correlating the real-time, status information having forecast/predefined rule).

Brockel states that a plurality of traffic meter and throughput data inputs, indicated by arrow 60, are accessed from a plurality of switches of said network 100 during operations, and that the plurality of traffic meter and throughput data inputs, arrow 60, also establish said adjusted traffic needline data, arrow 81, during said database updating step. Brockel also states that traffic forecasting means 59 generates said traffic forecast output, arrow 61, utilizing a traffic database 55 and a predicted database 56. Elsewhere Brockel states that coefficients in the model are adjusted according to rules of inference (col. 16, lines 14-49). However, Brockel does not disclose or suggest that the rules to adjust the coefficient can also be used to perform Applicant's claimed step of evaluating performance of the network by correlating real-time status information with a rule. For this reason, Brockel does not anticipate Applicant's claims 5, 46, and 47, and the rejection under 35 U.S.C. § 102 should be withdrawn.

On pages 5-6, 8-9, 10, 12, and 14, with respect to claims dependent 6, 17, 25-27, 32, and 40-42, the Office Action does not state a specific citation with which to reject claims 6, 17, 25-27, 32, and 40-42. Therefore Applicant asserts that the rejection of claims 6, 17, 25-27, and 40-42 under 35 U.S.C. § 102 should be withdrawn.

On pages 6, 11, and 14-15, with respect to dependent claims 7, 28, and 43, the Office Action states that Brockel teaches, in col. 16, lines 17-35, wherein the future network-wide performance problem is cause by anyone or more of the problems selected from: operability problem of the resources of the network, operability problem of the network, failure of the resources of the network, failure of the network, integrity problem of the resources of the network, integrity problem of the network, efficiency problem of the resources of the network, efficiency problem of the network, decreased processing speed of the resources of the network, decreased processing speed of the network, usage capacity problem of the resources of the network, and usage capacity problem of the network.

In the cited passage (col. 16, lines 17-35), Brockel states system requirements necessary to support real-time predictive planning can include (1) keeping pace with asynchronous alarm flow, (2) maintaining an accurate model of the network configuration; (3) reasoning using incomplete data sets, if necessary; (4) tracking changes in problems over time; (5) distinguishing between source problems and side effects; (6) troubleshooting problems in order of severity; (7) suspending and resuming diagnosis of problems when appropriate; (8) tracking varying probabilities of suspect component failure; (9) selecting the most efficient and informative test available; and (10) interpreting test results to establish a diagnosis.

In other words, in the cited passage, Brockel is focused on diagnosis of problems as illustrated by Brockel's system requirements of receiving of alarms troubleshooting problems, selecting tests, and interpreting test results to establish a diagnosis. None of Brockel's listed system requirements addresses Applicant's claimed future network-wide performance problem, for example, possible detection of a network resource such as a CPU reaching processing capacity (an example of Applicant's claimed operability problem of the resources of the network as a cause of a future network-wide performance problem). Rather, Brockel's listed system requirements provide data for predictive planning. Because Brockel does not anticipate Applicant's claimed future network-wide performance problem being

caused by any one or more of a list of possibilities, the rejection under 35 U.S.C. § 102 of claims 7, 28, and 43 should be withdrawn.

On pages 6, 11, and 15, with respect to dependent claims 8, 29, and 44, the Office Action states that Brockel teaches, by reference numbers 55 and 56, wherein said step of polling resources includes gathering the real-time status information for anyone or more of network status, disk status, database status, memory status, CPU status, and operating system status.

With respect to the cited reference numbers (55 and 56), Brockel states that a traffic forecast output is generated using a traffic database 55 and a predicted database 56, that the traffic database 55 includes input communications requests, predetermined network performance parameters, operational facility data inputs, and performance criteria, that the predicted traffic database 56 calculates a percentage of network-bound traffic, that the percentage of network-bound traffic and a traffic forecast input form a traffic forecast output, modeling communications-link locations, for transmission to planning algorithms to complete the planning portion of said traffic forecasting step, that the traffic forecast output may instruct an operator that anticipated traffic conditions such as heavy digital data transmissions necessitate designing said network 100 so that various network components have a larger bandwidth and higher antenna gain in order for said network 100 to meet said plurality of predetermined network performance parameters.

Brockel's traffic database 55 includes input communications requests, predetermined network performance parameters, operational facility data inputs, and performance criteria, or, in other words, information necessary as input to a network planning model. Brockel's predicted traffic database 56 calculates a percentage of network-bound traffic that is used to form a traffic forecast output that models communications-link locations for transmission to planning algorithms. Thus neither the traffic database 55 nor the predicted traffic database 56 anticipate Applicant's claimed step of polling resources because there is no mention of polling throughout Brockel's specification, and neither database includes Applicant's claimed operational network status information (network status, disk status, database status, memory status, CPU status, and operating system status) because even a broad reading of Brockel's database contents does not include Applicant's claimed status information of resources in an operational network. For these reasons, the rejection of claims 8, 29, 44 under 35 U.S.C. § 102 should be withdrawn.

On pages 6-9 and 12-13, with respect to dependent claims 9, 18, 19, 33, and 34, the Office Action states that Brockel teaches, in col. 10, lines 15-25, wherein said step of polling resources gathering step includes gathering the real-time status information by a plurality of distributed gateways that are communicatively coupled to a central management system (the Office Action states that in operation during said network planning step, said network means 75 automatically examines pieces of said network 100 on a one-by-one basis in order to speed up the resulting calculations, and either apportions sections of said network 100 to a network manager or amasses portions into super nodes, usually through a plurality of gateway links, that thus during said network planning step, both the operator and said network planning means 75 engineer a network plan output, indicated by arrow 80, to meet said performance parameters of the network 100) (claim 9); wherein said at least one polling gateway includes a plurality of distributed polling gateways (claims 18 and 33); and wherein said plurality of distributed polling gateways include polling gateways that are each operable to poll particular ones of disparate network elements (claims 19 and 34).

In the cited passage (col. 10, lines 15-25), Brockel states that pieces of the network are examined in order to speed up the resulting calculations during network planning, that sections of the network are apportioned to a network manager or amassed into a super node, that a network plan is created that meets predetermined performance parameters. In Brockel's system there are network managers that are responsible for collecting information about sections of the network to provide that information to a model. In Applicant's system, there are gateways that are collecting status information from network resources to provide to a central management system. Brockel does not anticipate Applicant's claimed central management system because there is no need for such a system in Brockel. Brockel's network managers simply provide collected data to a modeling system, but do not have the need for the services of Applicant's claimed central management system that oversees the operation of the operational network. For this reason, Brockel does not anticipate Applicant's claim 9, and the rejection under 35 U.S.C. § 102 should be withdrawn.

With respect to dependent claims 18, 19, 33, and 34, Applicant reiterates that Brockel does not disclose any polling at all, and thus Brockel cannot anticipate Applicant's claims 18, 19, 33, and 34. The rejection of claims 18, 19, 33, and 34 under 35 U.S.C. § 102 should therefore be withdrawn.

On page 7, with respect to dependent claim 10, the Office Action states that in is inherent in Brockel that the rules or planning steps are being defined by users.

Applicant respectfully points out that the general rule of inherency may be relied upon only where the consequences of following the reference disclosure always inherently produces or results in the claimed invention. *W.L. Gore Associates, Inc. v. Garlock Inc.*, 220 U.S.P.Q. 303, 314. If there is not a reasonable certainty that the claimed subject matter will necessarily result, the rejections fails. *In re Brink*, 164 USPQ 247. Also, accidental results, not intended and not anticipated, do not constitute an anticipation. *Georgia-Pacific Corp. v. United States Plywood Corp.*, 118 USPQ 122, 128. MPEP § 2112 (page 2100-53, May 2004) states that to establish inherency, the extrinsic evidence "must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill." *Continental Can Co. v. Monsanto Co.*, 948 F.2d 1264, 1268, 20 U.S.P.Q.2d 1746, 1749 (Fed. Cir. 1991). "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990).

Applicant asserts that there is not, in fact, a reasonable certainty that Applicant's claimed user-defined rule will necessarily result from the system of Brockel because of the nature of Brockel's rules. In the first place, as previously point out, the rules themselves do no relate to Applicant's claimed future prediction of a network-wide performance problem. Secondly, Brockel's rules, based on the system requirements as outlined in col. 16, lines 17-56, are presented by example to be automatically derived (see col. 16, lines 40-49). Further, the Office Action has not provided a basis in fact and/or technical reasoning to reasonably support the determination that Applicant's claimed user-defined rule necessarily flows from the teachings of Brockel because there is no reason why a user should be necessary to create the rules of Brockel. For these reasons, claim 10 is not anticipated by inherency, and the rejection of claim 10 under 35 U.S.C. § 102 should be withdrawn.

On page 7, with respect to dependent claim 11, the Office Action states that Brockel teaches, in the Abstract, wherein the at least one previously defined rule is implemented as

software code executing on a management system (the Office Action states that the teaching is in the artificial intelligence program).

In the cited passage (the Abstract), Brockel states that an artificial intelligence program continuously compares the model, the model adjustments, the realigned network and the network performance parameters with each other. Elsewhere, Brockel states that these comparisons are used for real-time adjustments and corrections to the necessary algorithm, database, module, or other portion of the network [model] (col. 5, lines 25-27). Applicant has amended claims 9 and 11 to further define the management system, specifically claiming that the management system is capable of overseeing the operation of the operational network. Support for this amendment can be found in Applicant's Specification on page 8, lines 9-10. The artificial intelligence capability of Brockel is strictly limited to making comparisons of incoming data in order to adjust the network model, whereas Applicant's claimed management rule implemented as software code is executing on a management system capable of overseeing the operation of the operational network. Because the artificial intelligence capability of Brockel is not equivalent to Applicant's claimed management system, Brockel does not anticipate Applicant's claim 11, and the rejection of claim 11 under 35 U.S.C. § 102 should be withdrawn.

Applicant asserts that dependent claims 12, 13, 16, and 31 are patentable at least by virtue of their dependence upon allowable independent claims 1, 15, and 30.

On page 8, with respect to dependent claim 14, the Office Action states that Brockel teaches, in reference numbers 8, 9, 10, and 15, wherein said disparate characteristics include those selected from CPU run queue capacity, CPU run queue blocks, CPU run queue waits, context switching, memory paging, swap allocation, disk writes, disk blocking, disk waiting, disk utilization, network inbound packets, network outbound packets, network errors, and network collisions.

With respect to the cited reference numbers, Brockel states a dynamic network model 8, a network 9, a model correction means 10, and reconfiguration instructions, indicated by arrow 15. In other words, and according to the data/control flow directions specified in FIG. 1, in the system of Brockel, the dynamic network model 8 and network 9 feed information into model correction means 10 which provides reconfiguration instructions 15 to dynamic

network model 8. Brockel also states that reconfiguration instructions 15 and radio traffic measurements 11 are provided by network 9 to model correction 10. Applicant has amended claim 14 to narrow the list of disparate characteristics. Applicant's claimed disparate characteristics -- CPU statistics, memory statistics, and disk statistics -- of an operational network are neither Brockel's reconfiguration instructions nor Brockel's radio traffic measurements 11 because even a broad reading of reconfiguration instructions and radio traffic measurements cannot include such statistics. For this reason, Brockel does not anticipate Applicant's claim 14 and the rejection under 35 U.S.C. § 102 should be withdrawn.

On pages 9 and 13, with respect to dependent claims 20 and 35, the Office Action states that Applicant notes that the Office Action states that Brockel teaches wherein said disparate network elements include network elements that communicate in different network protocols (the Office Action states that "claim 15 is similarly rejected as in claims 1-14"). Applicant respectfully points out that there is no similar claim to claims 20 and 35 within claims 1-14. Because there is no rejection stated against claim 20, Brockel does not anticipate claims 20 and 35, and the rejection under 35 U.S.C. § 102 should be withdrawn.

On pages 9 and 13, with respect to dependent claims 21 and 36, the Office Action states that Brockel teaches, in reference numbers 90 and 100, wherein said disparate network elements include network elements selected from SNMP network elements, CMIP network elements, and network elements using TCP/IP protocol.

With respect to reference numbers 90 and 100, and gateway links, Brockel states that dynamic network model 90, which is computer-resident, contains environmental, traffic, or configuration changes relating to network 100, and that network 100 is examined and portions of it are amassed into super nodes, usually through a plurality of gateway links. Elsewhere, Brockel states examples of dynamic network protocols including dynamic network protocols that control the radio frequency used by said network 100, dynamic network protocols that would specify the number of retransmitted messages utilized in the event of a link failure or control the type of forward error correction to be employed (col. 13 line 67 – col. 14, line 4). In this discussion, Brockel could have, but did not, specify Applicant's claimed SNMP, CMIP, and TCP/IP protocols. For this reason, Brockel does not anticipate Applicant's claims 21 and 36, and the rejection of claims 21 and 35 under 35 U.S.C. 102 should be withdrawn.

On page 15, with respect to dependent claim 45, the Office Action states that Brockel teaches, in col. 17, lines 5-26, wherein said at least one network element is represented as an object within object-oriented software executing on the processor-based server, said object having one or more attributes for which said status information may be gathered.

In the cited passage (col. 17, lines 5-26), Brockel states that method of the present invention may be carried out on terrestrial line-of-sight communications networks, as well as communications networks receiving data from a means for inputting data from a plurality of satellites, that in operation a network management work station may host an applications software program, to access said meteorological forecast data input and real-time meteorological information variables, that propagation forecasting means 70 may also send said traffic forecast output and an adjusted traffic forecast output to network planning means 75 which along with said equipment availability and characteristics input, from said network 100 through said model correction means 110, may be combined with a projected link reliability factor as part of said propagation forecast output provided to network planning means 75 to complete the propagation forecasting step, and that the propagation forecasting means 70 may also be a computer program.

In other words, Brockel's system may be carried out electronically, and at least parts of it may be a computer program. Brockel does not disclose or suggest Applicant's claimed representing a network element as an object within object-oriented software. Applicant asserts that object-oriented software is specifically constructed. A general-purpose computer program, such as Brockel has stated, does not anticipate object-orientation because there are many ways in which computer programs can be constructed and object-orientation is only one of them. If Brockel's simple statement of computer program could anticipate Applicant's claimed structure including a network element that is represented by an object within object-oriented software, then any software application could be anticipated by Brockel, and that is surely not the case. For this reason, Brockel does not anticipate Applicant's claim 45, and the rejection under 35 U.S.C. § 102 should be withdrawn.

On pages 16 and 17, with respect to dependent claims 48, 51, and 56, the Office Action states that Brockel teaches wherein said network-wide performance problem includes a business performance problem (claim 48); wherein said network-wide performance problem includes a service performance problem (claim 51); and wherein said network-wide

performance problem includes a network element performance problem (claim 56) (the Office Action states that "real-time weather" and "model correction" anticipate Applicant's claims 48, 51, and 56).

With respect to the cited phrases, Brockel states that "real-time weather" is a network input generated by the "model correction" means (col. 5, lines 17-23, and col. 15, lines 2-4). Brockel's real-time weather is a parameter or combination of parameters that represents the state of the weather and is none of Applicant's claimed business, service, or network element performance problems. Brockel states that the model correction means continuously provides a plurality of meteorological measurements to the propagation forecast means, as well as a plurality of radio traffic measurements to the traffic forecast means, that the model correction means provides an adjusted propagation forecast and an adjusted traffic forecast to the network planning means, that the model correction means, having an artificial intelligence capability, continuously compares the dynamic network model, the model adjustments, the realigned network and the network performance parameters with each other, and that the model correction means develops reconfiguration instructions for transmittal to network operators (col. 4, lines 25-34). In other words, the model correction means processing incoming measurements, and produces forecasted output for the model and correction instructions for network operators. Brockel's real-time weather and model correction means do not anticipate Applicant's claimed business, service, and network element performance problems because neither provides for any of Applicant's claimed network-wide problems. Not even a broad reading of Brockel's producing forecasted output or correction instructions can anticipate Applicant's claimed business, service, and network element performance problems because Brockel's forecasts are not related to business, service, or network element performance problems. For this reason, Brockel cannot anticipate Applicant's claims 48, 51, and 56, and the rejection of claims 48, 51, and 56 under 35 U.S.C. § 102 should be withdrawn.

On page 16, with respect to dependent claims 49 and 50, the Office Action states that Brockel teaches, in the Abstract, wherein said at least one network element includes an electronic commerce system for processing commercial transactions with customers via the Internet, and wherein said business performance problem includes a problem resulting in

inability of said electronic commerce system processing said commercial transactions (claim 49); and wherein said management system includes a service management layer (claim 50).

In the cited passage (the Abstract), Brockel states a method for automatically planning and managing the performance of a communications network comprising a propagation forecasting step where propagation forecast algorithms form a propagation forecast from weather inputs and a traffic forecasting step where traffic forecast algorithms form a traffic forecast from traffic data inputs and a network planning step where planning algorithms display an automated network model, that meteorological measurements and radio traffic measurements are continuously provided, resulting in adjusted propagation and traffic forecasts, which are then followed by a network realignment step to adjust the network, that an artificial intelligence program continuously compares the model, the model adjustments, the realigned network and the network performance parameters with each other, that a coefficient adjustment step adjusts the propagation, traffic and planning algorithms, that reconfiguration instructions are developed and transmitted to network operators, and that an automated communications network planning apparatus can convert meteorological data and traffic data into a network model, capable of adjustment and updating, shown on a network terminal display.

In other words, Brockel states a model which is created from inputs including traffic and weather inputs, that is updated when new data arrive, that can be used to generate network reconfiguration instructions, and that can be displayed on a terminal. Brockel does not disclose or suggest Applicant's claimed network element that includes an electronic commerce system for processing commercial transaction with customers via the Internet, and therefore, Brockel does not disclose or suggest Applicant's claimed inability of the electronic commerce system to process commercial transactions. Brockel states that a display of the network model on a network terminal is possible, but nowhere does Brockel disclose or suggest electronic commerce, which would include some sort of browser that would interface with a service provider. Brockel discussed electronic warfare, but electronic warfare and electronic commerce would have completely different requirements. For example, electronic warfare would be useful for tracking enemy threats, whereas electronic commerce would be useful for allowing purchases of goods and services over the Internet. Because Brockel does not disclose or suggest Applicant's claimed electronic commerce system, processing of

commercial transactions, the Internet, or a problem resulting in the inability of the electronic commerce system to process the commercial transactions, then Brockel cannot anticipate Applicant's claims 49 and 50, and the rejection under 35 U.S.C. § 102 should be withdrawn.

On pages 16 and 17, with respect to dependent claims 52, 53, 55, 57, and 58, the Office Action states that Brockel teaches, in col. 2, lines 1-37, wherein said service performance problem includes problem with the quality provided to subscribers or clients of the managed network (claim 52; Applicant notes that the citation is "col. 2, lines 1-)"; Applicant assumes that the Office Action is referring to the whole of col. 2 and argues the rejection based on this citation); wherein said management system includes a network management layer (claim 53); wherein said management system includes an element management layer (claim 55); wherein said management system includes a plurality of at least the following layers: business management layer, service management layer, network management layer, and element management layer, and wherein a plurality of said layers are correlated within said at least one rule (claim 57); and wherein said management system includes a plurality of at least the following layers: business management layer, service management layer, network management layer, and element management layer, and wherein said network-wide performance problem is a problem within any of said plurality of layers (claim 58).

In the cited passage (col. 2, lines 1-37), Brockel states that there have been advances in terms of propagation and reliability modeling during fading using historical statistics resulting in a propagation reliability model for tactical line-of-sight radio which has been developed for a large range of climates, terrains, fade margins and path lengths, that there have been no practical solutions for quickly calculating the propagation effects from predicted short-term weather conditions and then rapidly adjusting the network plan or components of a communications system to meet given network performance parameters, that the effects of weather and communications-traffic patterns on the communications quality of dynamic networks are typically either anticipated based upon historical data, or compensated for by man-calculated adjustments to networks in the field, that tactical network management systems do not provide a facility for automatically planning and engineering communications networks based on current traffic forecasts and the real-time analysis of current traffic loads, that tactical networks cannot be planned in this manner because they are

continually dynamic, that a battlefield commander needs to design a communications network based on tonight's or tomorrow night's weather if that is the scheduled time of the military operation, that those concerned with the planning and management of communications networks in either a tactical or commercial environment have long recognized a need for an automated method to plan a communications system based on anticipated weather, propagation patterns and network traffic, monitor and calculate the impact of such environmental changes on the network quickly and then adjust the communications network for optimized performance based upon these environmental changes.

Brockel states in the cited passage (col. 2, lines 38-67) that his invention provides an automated method of network planning and management which will automatically plan, engineer and direct the installation and continuing operation of a radio communications network based upon planning tools integrating the effects of forecast weather, environmental feedback, real-time network status and necessary traffic dimensions, a dynamic network model and automatic experience-based improvements of algorithms used in the dynamic network model, that an automated communications network planner is also provided, that the practical needs of the tactical network planner and manager are addressed by using near-future propagation forecasts for network planning and real-time propagation information for network management, with an emphasis on 24-hour forecasting because many meteorological phenomena have a diurnal (24-hour) cycle, that necessary environment-driven changes can be made continuously and on a real-time basis operating on large masses of data which only a computer can effectively handle, that tools such as computer models, algorithms, computer simulations and AI-based tools are used in a new way along with currently available tactical system/network management technology, and that there are numerous commercial applications in areas such as mobile or cellular telephones, as well as any communications system that can be incapacitated by adverse propagation conditions.

With respect to dependent claim 52, Applicant claims a service performance problem that includes a problem with the quality provided to subscribers of the network. Whereas Brockel discusses the effects of weather on propagation, Brockel does not disclose or suggest network-wide performance problems that are to occur that include quality service to subscribers. Brockel states that network planning is based on anticipated weather,

propagation patterns, and network traffic, but does not disclose or suggest Applicant's claimed network-wide performance problem that is to occur. It is clearly different to take into account the affect of weather, etc., in a model, than to determine a specific network-wide performance problem that is going to occur, for example Applicant's claimed quality of service to subscribers. Thus Brockel does not anticipate Applicant's claim 52, and the rejection of claim 52 under 35 U.S.C. § 102 should be withdrawn.

With respect to dependent claim 53, Applicant claims a management system that includes a network management layer. Brockel states that a communications network is planned based on external needs such as performance parameters and weather, and acknowledges that the communications network needs to be managed, but Brockel does not give details about how the management is accomplished, in particular, Brockel does not disclose or suggest Applicant's claimed management system that includes a network management layer. Layered systems imply communication among the layers and protocols for such communications. If Brockel had disclosed such a capability, which he has not, there would be some structure to support the capability also disclosed. Applicant finds none of the structure nor the network management layer disclosed or suggested in Brockel. For this reason, Brockel cannot anticipate Applicant's claim 53, and the rejection of claim 53 under 35 U.S.C. § 102 should be withdrawn.

With respect to dependent claims 55, 57, and 58, Applicant respectfully refers to the argument for claim 53 that applies to claims 55, 57, and 58 as well. For the reason stated with respect to claim 53, Brockel cannot anticipate Applicant's claims 55, 57, and 58, and the rejection of claims 55, 57, and 58 under 35 U.S.C. § 102 should be withdrawn.

V. CONCLUSION

Because the rejections of claims 4-6 under 35 U.S.C. §112 have been overcome, the 35 U.S.C. §112 rejections are no longer applicable.

Because the examiner has made no specific reliance on portions of Brockel to reject dependent claims 6, 17, 20, 25-27, 32, 35, and 40-42, and as Applicant has pointed out herein above with respect to claims 6, 17, 20, 25-27, 32, 35, and 40-42, and the deficiency of the

reference with respect thereto, Applicant considers these claims to contain allowable subject matter.

Because Brockel does not disclose each and every element of Applicant's independent claims 1, 15, and 30, Applicant asserts that independent claims 1, 15, and 30 as well as dependent claims 2-14, 16-29, 31-53, and 55-58 are allowable and the rejections under 35 U.S.C. § 102 should be withdrawn. Furthermore, a 35 U.S.C. § 103 rejection of these claims would be inappropriate as well. Applicant's claimed invention is not an obvious extension of the use of Brockel to meet Applicant's patentable limitations.

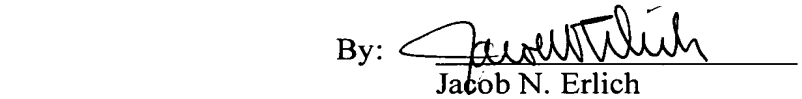
Applicant respectfully requests that the amendment herein under 37 C.F.R. § 1.116 be entered since it places independent claims 1, 15, and 30 in condition for allowance, and all dependent claims that depend upon allowable independent claims are in condition for allowance for same reasons.

Applicant is timely filing this response on March 6, 2006, because the date upon which the response was due to be filed, March 5, 2006, falls on a Sunday. The Commissioner for Patents is authorized to charge any additional fees or credit overpayment to Deposit Account No. 50-1078.

The following information is presented in the event that a call may be deemed desirable by the Examiner: Jacob N. Erlich (617) 854-4000.

Respectfully submitted,
Thomas C. Harrop, Applicant

Date: March 6, 2006

By: 
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